

We claim:

- 5 1. A security gate operating system apparatus, comprising:  
a security gate capable of motion between a closed position and an open  
position;  
a drive mechanism attached to the security gate and adapted to provide a  
driving force to the security gate to move the security gate between the closed  
10 position and the open position;  
an electrical drive motor having a drive shaft connected directly to the drive  
mechanism without a reduction gear between the drive motor and the drive  
mechanism.
- 15 2. The apparatus of claim 1, wherein the drive motor is a reluctance motor.
3. The apparatus of claim 1 wherein the drive motor is a switched reluctance motor.
4. The apparatus of claim 2 wherein the drive motor is a switched reluctance motor.
- 20 5. The apparatus of claim 1 wherein the drive motor is a three phase switched  
reluctance motor.
6. The apparatus of claim 2 wherein the drive motor is a three phase switched  
25 reluctance motor.
7. The apparatus of claim 3 wherein the drive motor is a three phase switched  
reluctance motor.
- 30 8. The apparatus of claim 4 wherein the drive motor is a three phase switched  
reluctance motor.
9. The apparatus of claim 1, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
35 a drive sprocket attached directly to the shaft of the drive motor, with the  
drive sprocket in operative connection to the drive chain.

10. The apparatus of claim 2, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
a drive sprocket attached directly to the shaft of the drive motor, with the  
5 drive sprocket in operative connection to the drive chain.
11. The apparatus of claim 3, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
a drive sprocket attached directly to the shaft of the drive motor, with the  
10 drive sprocket in operative connection to the drive chain.
12. The apparatus of claim 4, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
a drive sprocket attached directly to the shaft of the drive motor, with the  
15 drive sprocket in operative connection to the drive chain.
13. The apparatus of claim 5, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
a drive sprocket attached directly to the shaft of the drive motor, with the  
20 drive sprocket in operative connection to the drive chain.
14. The apparatus of claim 6, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
a drive sprocket attached directly to the shaft of the drive motor, with the  
25 drive sprocket in operative connection to the drive chain.
15. The apparatus of claim 7, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
a drive sprocket attached directly to the shaft of the drive motor, with the  
30 drive sprocket in operative connection to the drive chain.
16. The apparatus of claim 8, wherein the drive mechanism comprises:  
a drive chain operatively connected to the security gate;  
a drive sprocket attached directly to the shaft of the drive motor, with the  
35 drive sprocket in operative connection to the drive chain.

17. The apparatus of claim 1 wherein the drive mechanism comprises:  
at least one drive arm directly connected to the drive motor shaft and  
operatively connected to the security gate.
- 5 18. The apparatus of claim 2 wherein the drive mechanism comprises:  
at least one drive arm directly connected to the drive motor shaft and  
operatively connected to the security gate.
19. The apparatus of claim 3 wherein the drive mechanism comprises:  
10 at least one drive arm directly connected to the drive motor shaft and  
operatively connected to the security gate.
20. The apparatus of claim 4 wherein the drive mechanism comprises:  
at least one drive arm directly connected to the drive motor shaft and  
15 operatively connected to the security gate.
21. The apparatus of claim 5 wherein the drive mechanism comprises:  
at least one drive arm directly connected to the drive motor shaft and  
operatively connected to the security gate.  
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22. The apparatus of claim 6 wherein the drive mechanism comprises:  
at least one drive arm directly connected to the drive motor shaft and  
operatively connected to the security gate.
- 25 23. The apparatus of claim 7 wherein the drive mechanism comprises:  
at least one drive arm directly connected to the drive motor shaft and  
operatively connected to the security gate.
24. The apparatus of claim 8 wherein the drive mechanism comprises:  
30 at least one drive arm directly connected to the drive motor shaft and  
operatively connected to the security gate.
25. A method of operating a security gate, comprising:  
providing a security gate capable of motion between a closed position and  
35 an open position;  
utilizing a drive mechanism attached to the security gate to provide a driving

force to the security gate to move the security gate between the closed position and the open position;

utilizing an electrical drive motor having a drive shaft connected directly to the drive mechanism without a reduction gear between the drive motor and the  
5 drive mechanism.

26. The method of claim 25, wherein the drive motor is a reluctance motor.

27. The method of claim 25 wherein the drive motor is a switched reluctance motor.  
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28. The method of claim 26 wherein the drive motor is a switched reluctance motor.

29. The method of claim 25 wherein the drive motor is a three phase switched  
15 reluctance motor.

30. The apparatus of claim 26 wherein the drive motor is a three phase switched reluctance motor.

20 31. A security gate operating system, comprising:

a security gate capable of motion between a closed position and an open position;

a drive mechanism attached to the security gate and adapted to provide a driving force to the security gate to move the security gate between the closed  
25 position and the open position;

an electrical drive motor where the drive motor is a reluctance motor having a drive shaft connected to the drive mechanism

32. The apparatus of claim 31 wherein the drive motor is a switched reluctance  
30 motor.

33. The apparatus of claim 31 wherein the drive motor is a three phase switched reluctance motor.